Abstract

A fuel-injection system for direct injection of fuel into a combustion chamber through a combustion-chamber top arranged opposite a piston has a fuel injector which includes an actuable valve-closure member. The valve-closure member cooperates with a valve-seat surface to form a sealing seat. A multitude of spray-discharge orifices generates a spray cloud, each spray-discharge orifice generating a fuel jet, and the multitude of fuel jets generating the spray cloud in the combustion chamber. A first opening angle of the spray cloud in a first plane is greater than a second opening angle in a second plane extending perpendicular to the first plane.